REMARKS

The Office Action mailed on December 8, 2009, considered and rejected claims 1-8, 10-22, 24-33 and 35-37. Claims 1-8, 10-22 and 24-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lamb* (U.S. Patent No. 6,892,264) in view of *Iwami* (U.S. Publ. No. 2002/0156867) in view of *Thrasher* (U.S. Patent No. 7,275,103) and further in view of *Schulter* (U.S. Publ. No. 2002/0156612). Claims 32, 33 and 35-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lamb* in view of *Iwami*, in view of *Thrasher*, further in view of *Chadalapaka* (U.S. Patent No. 6,845,403).[1]

By this paper, claims 1, 5, 15, 28 and 29 are amended, claim 14 is cancelled, and no claims are added.[2] Accordingly, following this paper, claims 1-8, 10-13, 15-22, 24-33 and 35-37 remain pending, of which claims 1, 15, 29 and 32 are the independent claims at issue.

As reflected above, the pending claims are generally directed to accessing network devices, including accessing virtual SCSI devices over a network. Claim 1, for example, recites a method for providing the client system access to one or more of the devices through a network provider. In the method, one or more devices are first identified that can be accessed locally or over a network that includes multiple devices corresponding to unique device identifiers. Such one or more devices include a virtual SCSI device accessible through an iSCSI protocol. A target that identifies the set of the one or more devices is generated with the target including at least one corresponding unique device identifier, wherein the set of one or more devices is identified based on each of the devices having at least one common group of clients authorized to access the devices. Further, a plurality of logical unit numbers (LUNs) are assigned to the unique device identifier corresponding to the set of one or more devices, where the LUNs are relevant only within such target, such that other targets can be assigned at least some of the same LUN's. Client authorization information identified by the network provider is associated with the target that identifies the set of the one or more devices. The target is then dynamically assigned to a port through a protocol-independent port driver at the network provider such that only clients authorized by the associated client information are allowed to access the assigned

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[1] Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should the need arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

[2] Support for the claim amendments may be found within the Applicant's application as originally filed. For example, the claim amendments are clearly supported at least by the disclosure in paragraphs 17, 26, 41, 43, and 44 as numbered in the original application, as well as in the originally filed claims and figures.

port, thereby allowing only the clients access to the set of the one or more device through the target, wherein the assignment of the port is dependent upon load balancing of the network provider.

The remaining independent claims are closely related. For example, claim 15 recites a computer-readable medium generally corresponding to the method of claim 1. Claim 29 recites a method similar to claim 1, but which includes functional, step for language. Claim 32 recites a method which is more specific in various regards, but which excludes the limitation of a virtual SCSI device being accessible through an iSCSI protocol.

Initially, Applicant notes that it is axiomatic that the central inquiry in determining obviousness is whether the claims as a whole would have been obvious, and not whether the differences themselves would have been obvious. In that regard, the prior art must be considered in its entirety, including any disclosures that teach or lead away from the claimed invention. (M.P.E.P. 2141.02).

With particular reference to the pending claims that recite the use of SCSI architecture, Applicant notes that *Thrasher* is particularly instructive. For example, *Thrasher* notes that large organizations have previously relied heavily on SCSI technology; however "the restrictions imposed by SCSI architecture are too costly for SCSI to continue as a viable solution." Indeed, *Thrasher* further expounds on various specific restrictions of SCSI and also notes that even where storage arrays reside directly on the network than through the SCSI connection, it "adds a significant load to the network, which frequently is already starved for bandwidth." (Col. 1, ll. 10-33).

Thrasher thus notes that storage area network (SAN) models place storage on their own dedicated network and remove data storage from the SCSI bus, and that the objective of the invention in *Thrasher* is to provide a mechanism to proactively identify SAN bottlenecks and to reconfigure SAN pathing on the fly to improve the flow of data through a SAN. (Col. 1, ln. 34 to Col. 2, ln. 2). Indeed, the Office has cited the improvement of flow of data and proactive identification of bottlenecks in a SAN as the very reason why one skilled in the art would incorporate the teachings of *Thrasher* into the other cited art. (Office Action, p. 4).

Notably, *Thrasher* thus proposes a solution that eliminates the specifically criticized and discredited SCSI technology by instead modifying SAN models, and it is this modification and removal of SCSI that provides the very benefit *Thrasher* is purported to provide to the other art

of record. In other words, the operation of *Thrasher* is to use SAN as a replacement to SCSI and then modify the prior SAN principles in a manner that identifies and corrects for bottlenecks. *Thrasher* does so by not merely disclosing an alternative to SCSI, but by specifically criticizing, discrediting, and otherwise discouraging the use of SCSI.

Such teachings of *Thrasher* are clearly relevant inasmuch as the claims specifically include virtual SCSI devices accessible through iSCSI protocols. In view of the specific teaching away of *Thrasher* with regard to the use of SCSI systems and the limitations and disadvantages leading to its exclusion in *Thrasher*, a reason to include SCSI protocols must come from other art. Moreover, such art would necessarily need to conflict with *Thrasher* as the latter not only is devoid of use of SCSI, but actively teaches against the same. Specifically, to incorporate the principles of *Thrasher* with other art would require findings of suggestions that outweigh the teaching away of *Thrasher*. (M.P.E.P. § 2143.01(V)). Applicant respectfully submits that upon a review of the other cited art, the weight of the art suggests the undesirability of SCSI, and thus teaches away from the claimed combination. Moreover, while such argument was presented previously, it was ignored entirely in the Office's response to arguments. (Office Action, p. 2).

For example, *Lamb* discloses the use of an SCSI bus and port driver in connection with masked and unmasked LUN's. Notably, however, nothing in *Lamb* appears to give any reason why SCSI must or should be used over other protocols. Indeed, *Lamb* also indicates that an SAN can be used and, when combined with *Thrasher*, there is the clear teaching to avoid SCSI and instead incorporate the more modern technology of *Thrasher*. Similarly, *Schulter* also discloses both SCSI and SAN protocols, without any particular teaching or suggestion capable of overshadowing the teachings of *Thrasher*. *Iwami* notes the use of SCSI is a possibility in assigning storage unit identifiers; however, nothing in *Iwami* appears to provide any particular benefit of SCSI over SAN or other models. Thus, the specific teaching away in *Thrasher* clearly outweighs the more limited disclosure in *Iwami*.

Accordingly, upon a review of the cited art, and weighing the teachings thereof, Applicant respectfully submits that one skilled in the art would have concluded that SCSI was costly, restrictive, and carries too high of a load, and would have therefore incorporated the HBA porting of *Thrasher* as a manner of eliminating the use of SCSI.

Applicant further notes that the pending claims each relate to the assignment of LUNs in a manner such that LUNs are given relevancy only within a particular target, as recited in combination with the other claim elements. Thus, multiple targets can each have one or more LUNs that are the same, despite the targets and the elements referred to being different. In that regard, Applicant respectfully submits that the cited art, whether cited alone or in combination, clearly fails to teach or reasonably support such use of LUNs.

For example, *Lamb* relates to the use of an improved SAN with storage devices being selected using a previously assigned LUN ID. As part of the system, a graphical user interface is provided to access the system architecture and manage assignment of LUNs. For example, Figures 19 and 20 illustrate example graphical user interfaces that identifies accessible LUNs and provides other information such as the capacity, vendor, product, revision, LUN, status, and assignment of the storage devices to which LUNs are assigned. When a LUN is identified, an Assign LUN button will be activated when the LUN is currently unassigned. Instead, when an assigned LUN is displayed, the Unassign LUN and Reassign LUN buttons will be displayed. (Col. 38, ll. 15-30). Thus, *Lamb* teaches that when an LUN is present, it is unique within the system and can then be unassigned or reassigned, but does not appear to have any disclosure allowing a same LUN to be applied to multiple devices, partitions and/or files, as recited in the pending claims.

It should be noted that claim 32 has previously recited a similar claim element, in which multiple LUNs are assigned to different partitions or files, such that a LUN has relevancy only within a particular target. In that regard, the office notes the description in *Lamb* related to the assignment of an LUN by administrator selection of a host icon and a LUN icon on the graphical user interface display. (Col. 3, ll. 42-44). The LUN icons may be activated only after an icon for a particular host has been selected, and which are accessible to the selected host and otherwise suitable for assignment. (Col. 3, ll. 44-49). In operation on a Windows 2000 host, *Lamb* further describes that a PNP manager can query an SCSI port driver for information regarding the devices known by it. Such retrieved information may then include data such as port number, path number, target number, and logical unit number for each found device. The PNP manager can then generate an object for each device. (Col. 63, ll. 60-67).

Notably, nothing in the cited portions of *Lamb*, or in any other portion of *Lamb* as best as Applicant has been able to tell, relates to the use of an LUN my multiple different targets,

partitions, or files, particularly when considering that the claims recite that relevancy of the recited LUNs are only within the target itself. Instead, *Lamb* relates to an architecture manager in which LUNs are assigned globally through a GUI, so as to apply system-wide, without any apparent distinction between LUNs existing in one target or another target, let alone the same LUN existing in different targets despite corresponding to different items.

Applicant further respectfully submits that the other art of record appears to be no more relevant in this regard. For example, *Thrasher* describes LUN binding in which an addressable unit is bound to a specified array port in a specified storage device, which results in creation of a LUN. (Col. 26, ll. 57-66). Different LUNs may represent different paths to a single volume and an LUN may be bound to multiple ports, but nothing in *Thrasher* appears to relate in any way to making LUNs relevant only with a particular unique device identifier or device, let alone assigning multiple LUNs to different devices, partitions and/or files, as recited in combination with the other claim elements.

Applicant respectfully submits that *Schulter* is equally deficient in this regard. For example, *Schulter* describes a storage architecture in which each PAN has an independent perspective on mass storage, and thus a device/LUN address map is given to a location in a SAN. Each device/LUN address can be mapped into a major and minor device number to identify a disk and partition. (¶ 145). Notably, while *Schulter* does relate a LUN to a disk and partition, nothing appears to relate in any way to using the same LUN for multiple devices, partitions, and files as recited in combination with the other claim elements.

Chadalapaka relates to a iSCSI structure in which clients issue SCSI commands to request service from a logical unit. A SCSI transport can pap the client/server SCSI protocol to an interconnect with the initator as one endpoint, and the target as the other. (Col. 4, ll. 56-67). The target can have multiple logical units assigned to it, with each logical unit having an address as an LUN. (Col. 4, ln. 67 to Col. 5, ln. 3). Thus, while LUNs are assigned, nothing in *Chadalapaka* appears to relate to assigning multiple LUNs to different devices, partitions and/or files, or basing relevancy of an LUN such that it is only relevant with a particular device or unique device identifier.

In view of the foregoing, Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time.[3] It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any Official Notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required reason why one skilled in the art would have modified the cited art in the manner officially noticed.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at (801) 533-9800.

Dated this 20th day of April, 2010.

Respectfully submitted,

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[3] Applicant does note for the record that the Office has failed to even address various elements in the pending claims, and thus has failed to assert, much less provide, a *prima facie* case of unpatentability. For example, claim 32 recites a target is created to contain multiple logical unit numbers, with each target consisting of only logical unit numbers to which the client has been assigned and to which the client is to be provided access. The Office Action does not even address such element. Moreover, in view of the cited art which describes multiple types of information associated with each storage device, it is unclear how a target could consist of only logical unit numbers as recited.